NATURAL ENVIRONMENT ELEMENT
(Policies adopted in SMP)

B. Environmentally Critical Areas

NE-16 Use Best Available Science to preserve and enhance the functions and values of critical areas through policies, regulations, programs, and incentives.

NE-17 Implement projects and programs that include adaptive management based on Best Available Science to revise policies, regulations, and programs as needed to reflect changes in scientific advancement and local circumstances.

NE-18 Use science-based mitigation to offset unavoidable adverse impacts to critical areas.

NE-19 Implement monitoring and adaptive management to programs and critical areas mitigation projects to ensure that the intended functions are retained and, when required, enhanced over time.

NE-20 Use the precautionary principle when there is an absence of valid scientific information or incomplete scientific information accompanying a development application. Use rigorous analysis to appropriately limit development and land uses activities until the uncertainty is sufficiently resolved.

NE-21 Conserve and protect environmentally critical areas from loss or degradation. Maintain as open space hazardous areas and significant areas of steep slopes, undeveloped shorelines, and wetlands.

NE-22 Allow modification of critical areas where they have low ecological value and the function and values will be fully replaced. Avoid land uses and developments that are incompatible with environmentally critical areas.

NE-23 Avoid, where possible, the creation of new parcels with building sites entirely within wetlands, streams, steep slopes, frequently flooded areas, and their associated buffers. Configure future parcels to have a building site outside of these areas.

NE-24 Encourage use of creative and appropriate site design and housing types to balance environmental protection and achievable density. Encourage

clustering and density transfers for both commercial and residential development to help retain significant natural features and critical areas as open space.

NE-25 Ensure critical area regulations provide reasonable economic use for all property within Redmond when taking into account the entire property.

NE-26 Work cooperatively with other jurisdictions in King County to develop and implement critical area regulations, designations, and education programs that meet the goals of the Redmond community and provide for optimal consistency among jurisdictions.

Geologically Hazardous Areas

NE-27 Avoid and/or minimize potential impacts to life and property from geologic hazards such that the site is rendered as safe as one not containing such hazard.

NE-28 Require appropriate levels of study and analysis as a condition to permitting construction within Geologically Hazardous Areas, ensure sound engineering principles are used based on the associated risk in these areas, and appropriately limit land uses in areas of Geologically Hazardous Areas.

NE-29 Strictly limit disturbance in Landslide Hazard Areas.

NE-30 Direct uses that require substantial improvements, clearing and grading, or structures away from Geologically Hazardous Areas.

NE-31 Manage development in Erosion Hazard Areas to minimize erosion during both construction and use.

NE-32 Promote soils stability by the use of natural drainage systems and retention of existing vegetation in Geologically Hazardous Areas.

NE-33 Promote sound development practices, including Best Management Practices (BMPs), to limit erosion and sedimentation during construction.

NE-34 Establish setbacks around the perimeter of site-specific Landslide Hazard Areas to avoid the potential to undermine these areas, cause erosion and sedimentation problems to downstream or downhill land uses, and avoid the risk to human life and safety.

NE-35 Require that construction, maintenance, and operation of development in Seismic Hazard Areas minimizes hazards to persons, property, and natural resources within the Seismic Hazard Area and the entire community.

NE-36 Require site-specific seismic hazard preparedness studies for essential public facilities and lifelines.

Critical Aquifer Recharge Areas

NE-37 Protect the quality of groundwater used for public water supplies to ensure adequate sources of potable water for Redmond and the region. Ensure that the level of protection provided corresponds with the potential for contaminating the municipal water supply aquifer.

NE-38 Periodically review and update land use policies, regulations, or development or operating standards that ensure appropriate levels of groundwater recharge and apply to uses involving hazardous materials located in Critical Aquifer Recharge Area I and II. Ensure that any revisions to code or policy to address critical aquifer recharge areas are balanced with the desire for infiltration and recharge.

NE-39 Ensure degradation of groundwater quality does not occur. Where appropriate, prohibit the infiltration of runoff from pollution generating surfaces.

NE-40 Prohibit discharge of wastewater and potentially contaminated stormwater to groundwater. Prohibit reclaimed and greywater from infiltrating in the critical aquifer recharge area in order to preserve the quality of drinking water.

NE-41 Retain aquifer recharge capacity in areas that have not already been committed to urban uses. Encourage infiltration of clean runoff citywide to recharge the drinking water aquifer.

NE-42 Encourage retention of open spaces, tree protection areas, and other areas of protected native vegetation with a high potential for groundwater recharge.

NE-43 Encourage cleanup of contaminated sites within the city. To encourage such cleanups, ensure regulations and standards are performance based, do not duplicate state and federal requirements, and provide for expeditious approval where local review is required.

NE-44 Clean up contaminated sites that may affect Redmond's groundwater supplies to such a standard that the sites will not present a risk to drinking water supplies.

Frequently Flooded Areas

NE-45 Reduce the amount of effective impervious surface in floodplains and uplands contributing runoff to downstream floodplains.

NE-46 Employ no net impact floodplain management to avoid impacts to both upstream and downstream properties.

NE-47 Strive towards no net loss of the structure, value, and functions of natural systems constituting Frequently Flooded Areas.

NE-48 Regulate development in the 100-year floodplain to avoid substantial risk and damage to public and private property and loss of life. Ensure these regulations, as a minimum, comply with state and federal requirements for floodplain regulations.

NE-49 Direct uses that require substantial improvements or structures away from areas within the 100-year floodplain.

NE-50 Locate public facilities outside of the 100-year floodplain unless needed to serve development within areas characterized by urban development or because efficiencies from locating near existing public facilities already within the 100-year floodplain would clearly outweigh the risk of damage to the facility.

NE-51 Require that construction, maintenance, and operation of development in the 100-year floodplain minimize hazards to persons and property within the 100-year floodplain and the entire community.

NE-52 Update policies and development regulations to incorporate more detailed data on the extent of flood hazards as it becomes available.

NE-53 Cooperate with flood hazard reduction planning carried out by King County and update policies and development regulations to incorporate appropriate recommendations from these studies.

NE-54 Require compensatory floodplain storage for all projects constructed within the 100-year floodplain.

NE-55 Develop a City-initiated Sammamish River Compensatory Floodplain Storage Project. Allow Downtown development in the Sammamish River floodplain to "buy into" this project as an option in lieu of providing compensatory floodplain storage on-site.

NE-56 Include flood flow estimate representing future conditions build-out into the City's floodplain regulations as it becomes available.

NE-57 Consider reductions in the FEMA floodway only if future flows have been considered and adequately accommodated.

NE-58 Limit impervious surfaces citywide to reduce the possibility of flooding, to protect the environment, and to allow for groundwater recharge as appropriate for the specific needs of particular neighborhoods and urban centers.

NE-59 Explore new methods to limit effective impervious surface to protect environmental resources such as streams and allow for groundwater recharge, allow for efficient land use, reduce potential for flooding, and accommodate the level of development intensity planned for the area.

NE-60 Maintain and update clearing and grading regulations to minimize the overall impact of the activity on the environment. Generally, limit clearing to the parts of site that will be developed.

Wetlands

NE-61 Preserve wetlands to achieve no net loss of wetlands function and value. Use size and value of the wetlands to determine the amount of development allowed, if any. Seek to maintain wetlands acreage over the long term.

NE-62 Require buffers adjacent to wetlands to protect the ecological functions integral to healthy wetland ecosystems.

NE-63 Use federal mitigation sequencing guidelines when reviewing projects impacting wetlands. This involves, in the following order: avoiding the impact altogether by not taking a certain action or parts of actions;

minimizing the impact by limiting the degree or magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and compensating for the impact by replacing or providing substitute resources or environments.

NE-64 Ensure the amount of mitigation required reflects the value and function of the wetlands affected by the project, the risk that the mitigation may fail, the temporal loss of wetlands functions and values, the spatial locations of the mitigation, and the difficulty of replacing many wetlands functions and values. For these reasons, require in general a significantly larger area of mitigation than the area of wetlands impacted.

NE-65 Pursue opportunities to enhance and restore degraded wetlands.

NE-66 Implement effective ways of wetland mitigation such as mitigation banking for capital improvements projects that are linear, such as road and utility projects.

Water Quality and Basin Planning

NE-67 Maintain surface water quality necessary to support native fish and wildlife meeting state and federal standards over the long term. Restore surface waters that have become degraded to provide for fish, wildlife, plants, and environmentally conscious human use of the water body.

NE-68 Restore, protect, and support the biological health and diversity of Water Resource Inventory Area (WRIA) 8 within the city.

NE-69 Protect and restore natural systems that underpin watershed health and hydrological integrity.

NE-70 Work with regional agencies to monitor surface water quality and implement measures to identify and address any sources of contamination.

NE-71 Control the flow of nutrients (especially phosphorus), heavy metals, and other pollutants into streams, rivers, Lake Sammamish and other area lakes, and natural wetlands. Require treatment measures where the development results in discharges to surface or groundwaters.

NE-72 Cooperate with King County and other local governments and state agencies in developing and implementing Watershed Management Plans, Water Quality Management Plans, and other types of basin plans for basins which include or are upstream or downstream from Redmond.

NE-73 Complete and maintain Watershed Management Plans for all areas in the city. Address water quality, habitat, stormwater runoff, and flooding issues. Review each plan for effectiveness at least once each five years.

NE-74 Incorporate the applicable and effective recommendations of Watershed Management Plans into the City's Comprehensive Plan, development regulations, and capital facility plans.

NE-75 Protect and enhance rivers, streams and lakes, including riparian and shoreline habitat, to protect water quality, reduce public costs, protect fish and wildlife habitat, and prevent environmental degradation. Protect both perennial and intermittent streams to preserve natural hydraulic and ecological functions, fish and wildlife habitat, recreational resources, and aesthetics.

NE-76 Maintain natural hydrological functions within the city's ecosystems and watersheds and encourage their restoration to a more natural state.

NE-77 Protect the near shore habitat of Lake Sammamish by avoiding bulkheads within the 100-year floodplain elevation.

NE-78 Avoid development impacts to riparian corridors. Protect riparian vegetation within stream buffers to maintain ecological functions. Enhance and rehabilitate these areas if they are impacted by development and encourage this when development takes place on adjacent uplands. Establish stream buffers to protect riparian ecological functions that contribute to healthy stream systems.

NE-79 Preserve and enhance the natural appearance of stream corridors.

NE-80 Encourage restoration and enhancement of the Sammamish River, Lake Sammamish, riparian stream corridors, wetlands, and associated buffers with priority given to areas associated with listed species. Explore actively and pursue a variety of funding mechanisms for enhancement and restoration work.

NE-81 Support the rerouting of Evans Creek from its current degraded position in a highly industrialized setting to an area to the north that allows for

improved conditions, connecting wetlands to Evans Creek, and ample buffer widths.

NE-82 Encourage improvements such as removal of fish barriers to the fisheries habitat of watercourses when abutting properties are developed.

NE-83 Support public education to protect and improve surface and groundwater resources by:

- Increasing the public's awareness of potential impacts on water bodies and water quality;
- Encouraging proper gardening and farming practices, including the use of environmentally appropriate fertilizers and chemicals;
- Encouraging proper disposal of materials;
- Educating businesses on surface and groundwater protection Best Management Practices in cooperation with other government agencies and other organizations; and
- Educating the public and businesses on how to substitute materials and practices with a low risk of surface and groundwater contamination for materials and practices with a high risk of contamination.

NE-84 Avoid alteration of riparian stream corridors to the maximum extent possible. Whenever possible, avoid reduction in the capacity of natural drainage courses and minimize enclosures of natural drainage ways. Discourage stream relocation except as identified in NE-81. Replace and enhance the flood control and habitat values of drainage courses when relocation or alteration is necessary for public benefit. Require enhancement when alteration of a stream to increase the usability of a site is permitted.

NE-85 Use bridges as the preferred method of crossing a watercourse that has habitat suitable for fish use or may be rehabilitated for fish use in the future. Prohibit the use of culverts where a fish barrier would result. Consider allowing culvert systems that would provide stream beds similar to natural channels where loss of habitat would not be significant and the cost of a bridge does not justify its benefits to fish passage, flood control, or other resources. Design bridges to allow for small animal migration under the bridge most of the time. Remove fish barriers where an existing fish barrier exists.

NE-86 Stabilize stream banks and shorelines, if necessary, by bioengineering techniques except where unique factors make this approach infeasible.

NE-87 Restore natural drainage channels that have been placed within culverts and have had their capacity or habitat value reduced as development or redevelopment occurs. Allow retention of existing culverts for stream crossings where they do not result in a fish barrier in a stream that contains or has the potential to contain fisheries habitat.

Fish and Wildlife Habitat

NE-88 Maintain a rich ecosystem supporting a variety of wildlife, as well as opportunities for education and appreciation of native habitats.

NE-89 Preserve and restore regional biodiversity with a focus on promoting native species and avoiding and eliminating invasive species.

NE-90 Protect Core Preservation Areas within the city.

NE-91 Restore and enhance degraded or lower-quality habitat within Core Preservation Areas.

NE-92 Pursue opportunities to preserve Quality Habitat Areas especially those which extend and connect to Core Preservation Areas.

NE-93 Design developments, parks, and recreation areas, to minimize impact to, and retain the character of, Quality Habitat Areas.

NE-94 Protect natural resources having a primary association with Species of Concern, Priority Species, and Species of Local Importance.

NE-95 Participate in regional efforts to recover species listed under the Endangered Species Act (ESA), such as the Chinook Salmon.

NE-96 Incorporate into the Watershed Management Plan local responses, commitments, policies, and programs to protect Redmond's wildlife targeting recovery of ESA listed species.

NE-97 Modify City plans, programs, and policies, such as public projects, private development standards, maintenance standards, and utility practices, to be consistent with regional and local ESA policies and requirements.

NE-98 Protect salmon, steelhead and other fish, plants, and wildlife that rely on the aquatic environment by protecting and improving water quality.

NE-99 Give special consideration to conservation and protection measures to preserve and enhance anadromous fisheries.

NE-100 Minimize habitat fragmentation by linking wildlife habitats via corridors. Connect wildlife habitats with each other within the city and the region to achieve a continuous network. Wildlife corridors include, but are not limited to, parklands usable by wildlife, protected or reserved (Native Growth Protection Easements) open space, utility rights-of-way, riparian corridors, wetland buffers, and protected sensitive areas.

NE-101 Consider impacts City projects have on wildlife corridors and connectivity.

NE-102 Coordinate land use planning and management of fish and wildlife resources with other local governments within the region, affected state and federal agencies, and affected Indian tribes.

NE-103 Develop a wildlife habitat management strategy and well-defined goals to monitor and maintain wildlife habitat, with mechanisms for City and volunteer support.

NE-104 Encourage conservation and sustainability throughout the city by minimizing impacts to wildlife and water quality through practices, such as limiting the use of toxic pesticides and fertilizers, incorporating alternative pest management methods, and providing public education about such practices.

NE-105 Use native vegetation on City capital projects, prevent the continued spread of invasive and noxious weeds to habitat areas, maintain a long-term management strategy to prevent noxious weeds, and manage these weeds where they are present on City-owned properties.

NE-106 Use a majority of native vegetation that is supportive of wildlife instead of nonnative plant species and eliminate the use of invasive species when landscaping for new developments adjacent to wildlife habitats.

NE-107 Ensure management of noxious weeds and invasive species are an integral part of landscape plans for new development. Work with King County and Washington State to target the management of noxious weeds.

NE-108 Promote public education and outreach on wildlife habitat in the city and provide information to residents on how they can participate in the Backyard Wildlife Sanctuary Program.

NE-109 Support urban wildlife habitat management through education, City actions, and demonstration projects.

NE-110 Employ wildlife habitat-friendly practices in designing and maintaining city parks.

NE-111 Coordinate with King County's Native Plant Salvage Program to facilitate the identification of potential sites for plant salvage.